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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/675,165 | 09/29/2000 | Naoji Otsuka | 35.C14829 | 2801 |
| 5514 | 7590 | 06/09/2005 | EXAMINER | |
| FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112 | | | NGUYEN, THINH H | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2861 | |

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/675,165

Applicant(s)

OTSUKA ET AL.

Examiner

Thinh H. Nguyen

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 9-17, 20, 22, and 24 are rejected under 35 U.S.C. § 102(e) as being anticipated by Askeland et al. (U.S.6,254,217)

Askeland (col.4, line 21 – col.5, line 20; see also claims 22-27) discloses every element of the instant claimed print apparatus which forms a color image by applying ink materials of plural colors onto a print medium, using a recording means including a plurality of nozzle arrays arranged along a predetermined direction, the nozzle array having a plurality of nozzles to eject ink materials, said apparatus comprising:

a scanner (see controller; col.16, lines 52-54) to scan the recording means in forward scanning and backward scanning directions, wherein said scanner scans along said the predetermined direction,

a print controller (col.16, lines 52-55) to control the printing so that a printing means executes the printing while said scanner scans said the recording means in the forward scanning and the backward scanning directions;

a changing means (a record control means, re claim 28) (as described as printing mask, col.17, lines 5-9) to change an order of application of the plural ink materials of different colors to a pixel area; wherein said print controller applies plural ink materials for each pixel area, said the pixel area serving as a unit area (characterized by superpixel 124, fig.11B) to form a primary or secondary color thereon,

wherein said print controller applies plural ink materials of different colors for forming the secondary color, to each of plural positions on the pixel area (characterized by subpixels; col17, lines 17-20);

wherein said changing means can change orders of application of the plural ink materials of different colors, to the respective positions (defined by print mask locations) on one pixel area; and

wherein orders of application of the plural ink materials of different colors for forming the process color, to the respective positions on one pixel areas are made symmetric. (see superpixel 124, fig.11B wherein ink dot is formed in the symmetric order i.e., CYYC as shown by each superpixel 124 of the last row)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Askeland et al. in view of Mizutani. (U.S.5,774,146)

Askeland discloses the instant claimed controller to control one(s) corresponding to ink materials of at least two colors;

a record control means (nozzle mask) adapted to record by means of the nozzle arrays arranged to respectively correspond to at least two colors; and

method of printing by applying ink in symmetrical order in the forward and reverse direction except for a buffer having a plurality of storage areas corresponding to the ink materials of at least two colors respectively;

However, it would be well known in the printer art to utilize the buffer (i.e., RAM) to store processed information data of the respective image. Such buffer being selected when related data needed to be processed to improve printer processing time as taught by Mizutani (col.5, line 66 – col.6, line 8). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the data buffer in Askeland to enhance printing performance and for storing processed information.

5. Claims 6-8, 18-19, 21, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Askeland et al. in view of prior art of record to Matsufuji et al. (U.S. 4,593,295)

Askeland discloses the instant claimed nozzle structure except for nozzle groups of certain color are symmetrically arranged in a scanning direction.

Matsufuji et al. teaches nozzle groups of certain color are symmetrically arranged in a scanning direction and printing are applied in the symmetrical order. Since both Askeland and Matsufuji et al. related to controlling nozzles ejection order in the bi-

directional printer, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the Matsufuji et al. nozzle structure in Askeland for the purpose of ejecting ink color in the symmetrical order.

As for limitation recited in claims 18 and 19, Askeland does not teaches applying the apparatus in a copy machine and a facsimile machine.

However, it would be obvious to use the apparatus such as the ink jet printhead as taught by Askeland in the copy machine and the facsimile machine since it is widely known to apply ink jet structure as a whole in the copy machine and the facsimile machine so that ink jet application can be provided.

Response to Amendment

Applicant's Amendment filed March 21, 2005 has been entered and carefully considered. Claim 28 has been added.

Applicants' arguments with respect to new issues presented in claim 28 have been considered as noted in the above new grounds of rejection.

Applicant argues that the order of application of inks of plural colors to a particular pixel area is changed, and that the order of application of inks is not determined by a mask pattern. The Examiner disagrees.

In Askeland, mask pattern are defined according pixel locations. Unless the mask pattern is defined as a random mask pattern, data corresponding to a particular pixel can be individually defined or modified.

Even though the mask pattern are not considered as a teaching import by the application, however, it does not outweigh the fact that the teachings using different process are presented in the reference.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

Any inquiry concerning this communication should be directed to examiner Thanh Nguyen at telephone number (571) 272-2257. The examiner can generally be reached Mon-Wed, Thursday from 9:00A – 5:00P. The official fax phone number for the organization is (703) 872-9306. The examiner supervisor, Dave Talbott, can also be reached at (571) 272-1934.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-1782.


Thanh Nguyen

June 6, 2005

Thanh Nguyen
Primary Examiner
Technology Center 2800